

ABSTRACT

This specification relates to a process for manufacturing a semiconductor device, comprising the steps of: forming a lower gate electrode film on a semiconductor substrate 10 via a gate insulating film 11; forming an
5 upper gate electrode film on the lower gate electrode film, the upper gate electrode film being made of a material having a lower oxidation rate than that of the lower gate electrode film; forming a gate electrode 12 by patterning
10 the upper gate electrode film and the lower gate electrode film, the gate electrode 12 comprising a lower gate electrode element 12a and an upper gate electrode element 12b; forming source/drain regions 15 by introducing an impurity into the semiconductor substrate 10; and forming
15 oxide film sidewalls 13 by oxidizing the side faces of the lower gate electrode element 12a and the upper gate electrode element 12b, the thickness of the oxide film sidewalls 13 in the gate length direction being larger at the sides of the lower gate electrode element 12a than at
20 the sides of the upper gate electrode element 12b.